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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO. .
10/509,204	10/31/2005	Yukio Yamada	450104-05354	5171

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William S Frommer  
Frommer Lawrence & Haug  
745 Fifth Avenue  
New York, NY 10151

EXAMINER

THOMAS, JAISON P

ART UNIT	PAPER NUMBER
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1751

MAIL DATE	DELIVERY MODE
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08/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/509,204

Applicant(s)

YAMADA, YUKIO

Examiner

Jaison P. Thomas

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/24/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5,7 and 11 are rejected under 35 U.S.C. 102(b) as anticipated by Oldenburg (US Patent 6344272).

Oldenburg et al. teaches particulate compositions which can absorb and scatter electromagnetic radiation. The particles are comprised of a nonconducting inner layer and an electrically conductive outer layer (Abstract). The conducting shell layer is metal or metal like and the particles can comprise alternating layers of conducting or nonconducting layers (Col. 5, lines 1-13). The nonconductive layers can include polymethylmethacrylate and polystyrene (Col. 5, line 22). The metal conducting layer can be comprised of noble and coinage metals such as gold, silver, copper, platinum, palladium, lead or iron (Col. 6, lines 1-10). The conducting layers have thicknesses ranging from 1 to 100 nm (Col. 6, lines 10-12). The core layer is comprised of colloidal silica which can have diameters ranging from 10 nm to 4 microns (Col. 5, lines 62-65). The patent also discloses that ratio of the thickness of the metal shell to the nonconducting inner layers can be varied with ratios ranging from 10 to  $10^{-3}$  for purposes of absorbing radiation (Col. 8, lines 5-15). The particles of the invention can

Art Unit: 1751

be distributed in a matrix of polymers such as polyethylene and PVA (Col. 4, lines 41-43).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oldenburg (US Patent 6344272).

Oldenburg is relied upon as disclosed above. However, Oldenburg fails to teach the specific ratios of layer thicknesses as required in claims 2 and 7 and the weight limitations of Claim 7.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the thicknesses of the conductive films of Oldenburg through routine experimentation for best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the prima facie case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). As discussed above, the

Art Unit: 1751

reference teaches that the layer thicknesses and ratios of conducting to nonconducting layer thicknesses can be varied depending on the wavelengths of radiation being absorbed. Such variability would meet the definition of result effective variables. Further, with the variation in the layer thicknesses and the similarities of the materials being used, the Examiner respectfully submits that one of ordinary skill in the art would reasonably expect that the particles made in the prior art would meet the claimed weight limitations as well.

#### ***Allowable Subject Matter***

5. Claims 6 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach, suggest or motivate one of ordinary skill in the art to produce a conductive particle wherein at least one portion of the surface of a conductive film contains a convex portion or where the particle contains a nickel metal layer.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison P. Thomas whose telephone number is (571) 272-8917. The examiner can normally be reached on Mon-Fri 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone


Art Unit: 1751

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jaison Thomas  
Examiner  
8/7/2007

JT

  
DOUGLAS MCGINTY  
SUPERVISORY PATENT EXAMINER  
1751